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Published in:
International Journal of the Economics of Business

Publication date:
2002

[Link to publication in Tilburg University Research Portal](#)

Citation for published version (APA):
Degryse, H. A., & Ongena, S. (2002). Bank-firm relationships and international banking markets. *International Journal of the Economics of Business*, 9(3), 401-417.

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Bank-Firm Relationships and International Banking Markets

HANS DEGRYSE and STEVEN ONGENA

ABSTRACT *This paper reviews how long-term relationships between firms and banks shape the structure and integration of banking markets worldwide. Bank relationships arise to span informational asymmetries that are endemic in financial markets. Firm-bank relationships not only entail specific benefits and costs for both the engaged firms and banks, but also directly affect the structure of banking markets. In particular, the sunk cost of screening and monitoring activities and the 'informational capital' collected by the incumbent banks may act as a barrier to entry. The intensity of the existing firm-bank relationships will determine the height of this barrier and shape the structure of international banking markets. For example, in Scandinavia where firms maintain few and strong relationships, foreign banks may only be able to enter successfully through mergers and acquisitions. On the other hand, Southern European firms maintain many bank relationships. Therefore, banks may consider entering Southern European banking markets through direct investment.*

Key words: Bank-Firm Relationships; International Banking Markets.

JEL classifications: G21, C41.

1. Introduction

Information problems are pervasive in financial markets and market participants attempt to bridge the informational divides in a variety of ways. For example, bank loan officers seek to discern through on-site visits the quality of the projects of the borrowing firms. Depositors may turn to a credit rating agency to assess the safety

We have received helpful comments from two anonymous referees, Yohanes Riyanto, and Adrian Tschoegl. Ongena thanks the Fund for the Advancement of Bank Education at the Norwegian School of Management BI and the Netherlands Organization for Scientific Research (NWO) for partial funding of this research.

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International Journal of the Economics of Business

ISSN 1357-1516 print/ISSN 1466-1829 online

© 2002 International Journal of the Economics of Business

<http://www.tandf.co.uk/journals>

DOI: 10.1080/1357151021000010000

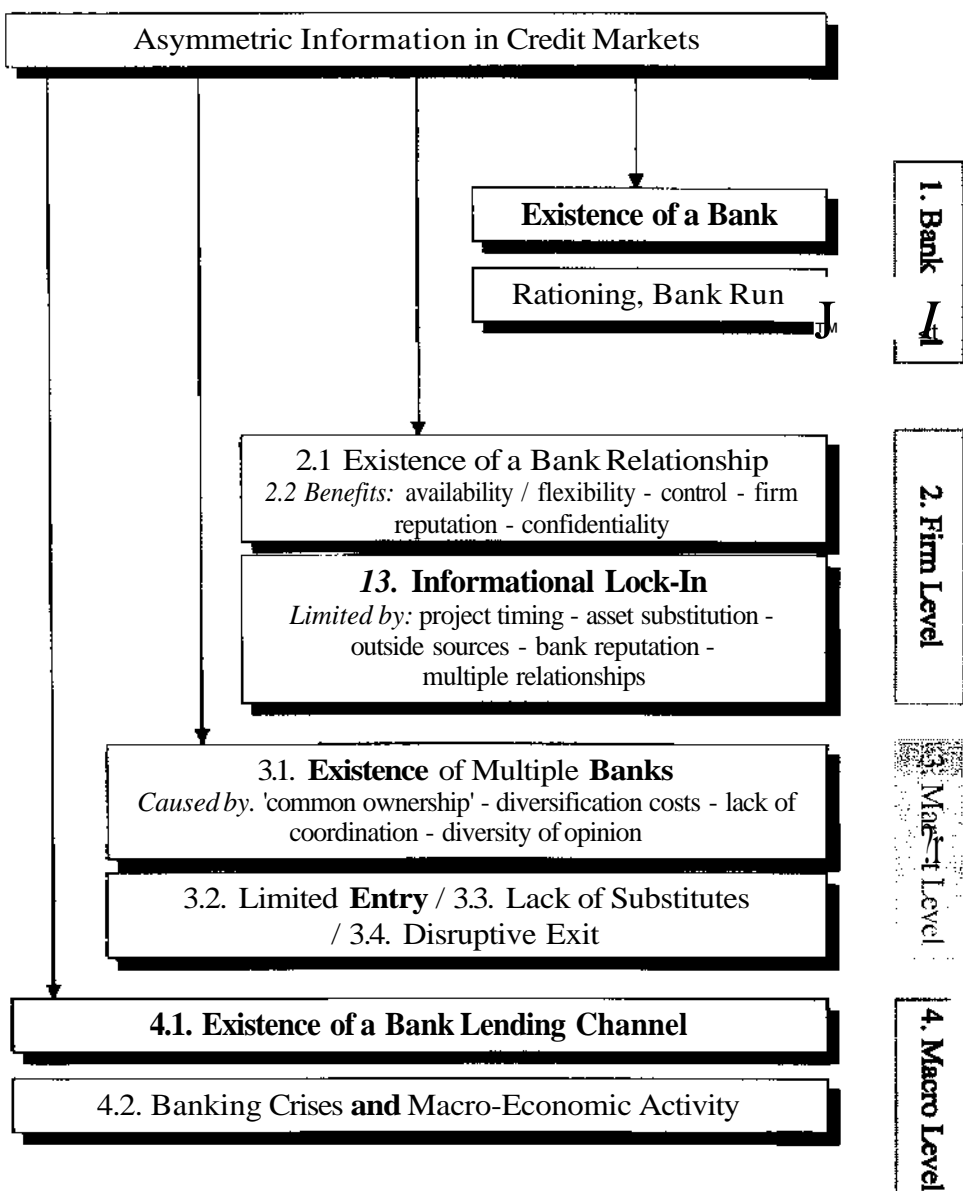


Figure 1. Bank relationships and market structure.

of their uninsured bank deposits, and dealers may engage in costly research tracking stocks for which they act as market makers. Influential theoretical work in the early '80s employed asymmetric information arguments to elucidate important phenomena in financial markets, such as credit rationing (Stiglitz and Weiss, 1981), the occurrence of bank runs (Diamond and Dybvig, 1983), and the emergence and existence of financial intermediation (Diamond, 1984).

Ensuing theoretical work attempts to provide a comprehensive explanation for the panoply of institutions, practices, and contracts observed in financial markets.¹

In particular, one recent strand of the literature explains the emergence of long-term relationships between firms and banks,² and infers the significance of these relationships for the structure of credit markets.³ This paper aims to provide a review of this extensive body of theoretical and related empirical work on bank-firm relationships and the structure of banking markets worldwide.⁴ Such a summary may be timely, as some of the insights of the current academic literature have yet to seep into policy discussions concerning, for example, the impact of the ongoing reshaping of international banking markets on corporations and product markets.

Figure 1 provides a road map for the rest of the paper. The second section contains a discussion of the benefits and costs of a bank relationship for the firm. The third (and main) section focuses on the consequences of the emergence of long-term bank relationships for the structure and integration of international banking markets. In particular, section three discusses the interaction between the existence of bank relationships and the number of banks in the market, *de novo* bank entry, the availability of substitutes, and the exit from banking markets. A fourth section deals with the relevance of the strength of bank relationships for the correspondence between banking system health and macro-economic activity. The final section concludes.

2. Bank Relationships: Benefits and Costs for the Firm

2.1. Emergence and *Existence* of Bank Relationships

A firm-bank relationship can be defined as the 'close and continued interaction' between a firm and a bank that 'may provide a lender with sufficient information about, and voice in, the firm's affairs' (Petersen and Rajan, 1995). It is through the temporal *progression* of a relationship that a bank can learn more than other financiers about a firm's ability to meet future obligations, either through the monitoring of debt covenants and payment history or through other services offered to the firm by the bank. For example, the bank may piece together an accurate picture of the firm by looking at past activities on the firm's checking account (Nakamura, 1993; Vale, 1993; Mester, Nakamura and Renault, 2001). Alternatively, the bank may obtain superior information, as it becomes the firm's shareholder (for example, Gorton and Schmid, 2000). It is this informational asymmetry between the 'inside' bank and other 'outside' banks, which gives the inside bank a competitive edge and almost assures continued interaction between the bank and its high-quality borrowers (Fischer, 1990; Sharpe, 1990; Rajan, 1992; vonThadden, 1998).

2.2 Benefits of a Bank Relationship for the Firm

Firms may benefit from the availability / flexibility, control, reputation, and confidentiality embedded in a bank relationship. First, there is quite a large empirical literature showing that a credit relationship increases access to capital, possibly at a lower cost and/or with less collateral.⁵ In addition to increased *availability*, a credit relationship may foster *ex-ante flexibility* in writing loan contracts and allow a firm to fulfill its more complex and non-standard credit needs (Bernanke and Gertler, 1985; Boot and Thakor, 1994; vonThadden, 1995). For a firm experiencing difficulty meeting contracted loan payments, a bank can smooth

interest rates and reschedule capital payments through for example overdraft facilities and the possibility of renegotiation (Chemmanur and Fulghieri, 1994).⁶

But the bank may also either accommodate the firm with new lending or refuse future lending, conditional on actions taken by the firm during and after the distress period. Thus, banks may have the ability to exert *control* over the management of firm assets, which may induce managers to take optimal decisions (Rajan, 1992). If repeated lending from a reputable financial institution provides credible certification and control of managers' actions, a credit relationship may also bolster the firm's *reputation*. Immaculate standing may facilitate current and future funding from both shareholders and alternative outside sources (Diamond, 1991),⁷ though the continuation of the bank relationship may require subordination of other debt to bank debt (Longhofer and Santos, 2000).

In a recession, firms may prefer to solve their expected financial problems privately in a credit relationship, rather than damaging their reputation on the financial markets. The *confidentiality* of a bank relationship may also further facilitate screening and monitoring (Campbell, (1979), may prevent leakage of proprietary information to product market competitors (Yosha, 1995; von Rheinbaben and Ruckes, 1998), and may encourage investment in Research and Development (Bhattacharya and Chiesa, 1995).

2.3. Hold-up Problem and its Limits

The ability for a bank to privately observe proprietary information and maintain a close relationship with its customer can also impose costs on the customer. For example, an incumbent bank has the ability to offer only above-cost loans to its best customers and holdup customers from receiving competitive financing elsewhere. The incumbent bank gains this monopoly power through its informational advantage over competitors. A high-quality firm that tries to switch to a competing uninformed bank gets pooled with low-quality firms and is offered an even worse, breakeven interest rate (Sharpe, 1990; Rajan, 1992; vonThadden, 1998). Firms may also have to invest resources searching for competing bank offers (Greenbaum, Kanatas and Venezia, 1989).

The extent to which any one bank can exploit an information monopoly is unclear (Farinha and Santos, 2001; Ongena and Smith, 2001). The bank's monopoly power may be contained by loan commitments (Houston and Venkataraman, 1994), by the ability of the firm to time projects (Egli, Ongena and Smith, 2001), or by the potential for moral hazard problems associated with asset substitution resulting from the higher interest rates charged by the inside bank (Schmeits, 1997). The incumbent bank's monopoly power will also be mitigated by accurate public signals of the firm's ability to pay to other banks (Sharpe, 1990), and in due time by the firm's reputation for proper repayment which will allow the firm easier access to public markets (Diamond, 1991). The costs arising from holdup problems may also be tempered by the bank's desire to acquire a reputation for refraining from extracting monopoly holdup rents (Sharpe, 1990), or for financing productive firms by making more efficient continuation decisions in renegotiation (Chemmanur and Fulghieri, 1994). The bank's affiliation with a business group may also limit its aspiration for rent extraction from other group members.⁸

One seemingly simpler solution to the holdup problem is for a firm to start more than one inside bank relationship and have the banks compete away the monopoly

rents, or induce competition later during the relationship. However, such competition can be a 'double-edged sword'. Any outside lender that competes with an existing inside bank by offering a lower interest rate at an interim stage of financing will suffer from a winner's curse problem (Rajan, 1992; von Thadden, 1998). The inside bank will offer a competitive bid for good firms while allowing bad firms to take the outside lender's offer. When competition ensues between more symmetrically informed banks, monopoly rents can be eliminated, but only at the expense of reduced relationship benefits, such as bank control over firm investment behaviour (Rajan, 1992) or availability of credit for the firm (Petersen and Rajan, 1995).

3. Bank Relationships and the Structure and Integration of International Credit Markets

3.1. The Number of Banks in a Domestic Banking Market

3.1.1. Single Bank Benchmark When costly information asymmetries exist between the investors and project insiders, in theory a *single* bank may arise as the optimal mechanism for channeling loans from investors to firms (Diamond, 1984). Indeed, investors delegate the responsibility to a bank for monitoring firm cash flows, thereby avoiding both duplication of monitoring and free riding. A single bank then most efficiently performs the monitoring and diversification, which results in cheaper financing for the firm. Hence, the number of banks in a domestic market may be quite limited. Therefore, it may even not be possible for the firm to find other banks to establish alternative credit relationships.

3.1.2. Internal Costs and Multiple Banks On the other hand, multiple banks may arise even in a world with asymmetric information if bank relationships decrease the need for monitoring (Daltung, 1997). By receiving a flow of relationship benefits a firm effectively becomes a 'bank stakeholder', and its partial 'ownership' of the bank creates an informational gain. The bank can become somewhat complacent *vis-a-vis* the relationship firm and does not need to monitor its credit risk as closely as for new loans.⁹ But 'common ownership' will also give rise to duplication of monitoring effort, as firms will have to monitor each other directly or indirectly by observing the performance of the bank itself. For example, firms can obtain information about the health of the bank from specialized agencies.¹⁰ Common 'ownership' then limits the optimal size of the financial intermediary, and multiple banks may co-exist in a domestic banking market.

Alternatively, Cerasi and Daltung (2000) focus on the benefits and costs of project diversification for the bank. By diversifying the bank portfolio and financing it with debt, the bank can commit to a higher level of monitoring. However, a banker monitoring more projects may become 'overloaded' and for example make more mistakes. Consequently, these overload costs also limit the optimal size of the bank.

3.1.3. Coordination among Multiple Banks Another explanation for the existence of multiple banks is that the inability to communicate information or coordinate actions across banks can be beneficial in inducing optimal behaviour on behalf of firm managers. Specifically, decentralized economies prevent commitment to sink

financing into long-term projects, because dispersed banks with limited capital do not communicate or coordinate bargaining with each other. The lack of coordination between bankers may lead firm managers to make more efficient accept-reject decisions on long-term projects as they cannot count on possibly inefficient long-term financing (Dewatripont and Maskin, 1995).

Diversity of opinion *per se* may create additional possibilities for multiple banks to co-exist. For example, bankers may sequentially but unknowingly 'disagree' about the quality of firm projects.¹¹ Multiple banks then arise to provide funds for projects where such disagreements are prevalent. Diversity of opinion among banks may result not only from the use of different types of credit worthiness tests but may also occur in case of similar but imperfect credit worthiness tests.

These imperfect tests act as filters, the precision of which can be strategically determined by the incumbent banks. Additional independent testing may improve the precision of the screening but is also costly. In this respect, banks may choose to develop their own independent test or opt for common filters through shared databases or uniform screening criteria (Shaffer, 1998). For instance, certain types of bank loans require standardized credit scoring models, often with common selection criteria. Common filters may mitigate the severity of the adverse selection problem. A single bank will determine the type of test by trading-off the additional cost of screening with the costs incurred by wrongly accepting bad and rejecting good projects. Hence, depending on how the trade-off is structured, multiple banks may co-exist in the domestic market.

3.2. Market Entry

3.2.1. Relationships as a Barrier to Entry Entry is possibly limited because of existing relationships. With multiple banks operating in the domestic market, firms could potentially start a relationship with more than one bank. But the number of bank relationships may affect the banks' incentives to monitor (Carletti, 2000) and it is not clear how competitively these multiple banks will behave. As active banks collect private information about the relationship firms, their loan origination costs decrease and their profitability increases. If the initial information collection is costly, it is a fixed, sunk cost, which tends to preclude competition (QafFee and Stiglitz, 1990). But even in the absence of initial fixed costs, the informational capital collected by the inside banks during the relationship may act as a barrier to *de novo* entry (Eber, 1996). For example, Dell' Ariccia (2001) shows that the presence of these informational asymmetries may result in an equilibrium market structure with a finite number of banks. Moreover, bank relationships may generate franchise value for established banks.¹²

Through multiple and independent screening the incumbent banks may spot and engage most high-quality entrepreneurs, leaving an increasingly adverse pool. In addition, relationship banks may have the ability to sequentially match any favourable outside offer. Hence, *de novo* bank entry may only be possible by targeting predominantly newly established firms. If this is the case, bank entrants face the sunk cost of executing many credit worthiness tests to build a solid customer base. Incumbent banks may further increase the hurdle by investing in technological improvements of the precision of their own tests, further eroding the quality of the pool of unfunded projects (Gehrig, 1998).

The level of entry deterrence caused by the existence of bank relationships may depend on the structure and size of the relevant banking market, the breadth of

permissible banking activities, and the quality of the information collection and processing technology. For example, Fischer (2000) reports that German manufacturing firms in more concentrated banking markets have to transfer more project-specific information to their lending banks than similar firms located in less concentrated markets.

3.2.2. Second European Banking Directive and US Riegle-Neal Act Recent deregulation and technological innovation need not lead to more contestability in banking markets. The Second European Banking Directive (and the Economic and Monetary Union in Europe) and the 1994 US Riegle-Neal Act have created geographically large banking markets. However, cross-border (country or state) banking does not necessarily result in more contestability, as investments in test technology and bank relationships imply strategically chosen levels of sunk costs and informational capital. Indeed, the harshness of adverse selection will depend upon the number of banks operating in the market and the relationship-specific investments made by the incumbent banks (Dell' Ariccia, Friedman and Marquez, 1999; Shaffer, 1998). Omnipresent retail networks may actually be the tools of choice to cement relationships and deter entry.

The recent extension in scope of permissible banking activities in the US may similarly result in widened and more intense bank-firm relationships and less entry, as the additional banking activities may provide incumbent banks with alternative information and influence channels (Santos, 1998). Finally, technological innovations and advances in information processing may increase the precision of screening and improve management of relationships with larger and more complex firms, further deterring entry into the corporate banking market.

3.2.3. Empirical Evidence There is empirical evidence that tight bank relationships may indeed deter entry. For example, a study looking at entry and exit of Swedish banks into local banking markets between 1831 and 1990 concludes that survival rates of new bank entrants are negatively related to the degree to which customer relationships with local banks already existed (Bergstrom, Engwall and Wallerstedt, 1994). A study by Shaffer (1998) also illustrates the difficulty of *de novo* entry. He finds that newly chartered banks in the US experience substantially higher loan charge-off rates during their third through ninth years than incumbent banks.

Similarly, already existing bank relationships may explain current difficulties foreign banks have in penetrating local markets directly and may explain part of their cost and profit inefficiencies once operating there (Berger, DeYoung, Genay and Udell, 2000). In particular, foreign banks may face problems in markets in which domestic banks have strong, i.e. intense and long-lasting, single ties to domestic business (Detragiache, Garella and Guiso, 2000; Ongena and Smith, 2000b). This may be, for example, the case in Scandinavian banking markets (Engwall, Marquardt, Pedersen and Tschoegl, 2001) and Tschoegl (2001).

At the same time already existing cross-border bank relationships between large domestic firms and foreign money center banks (for example based in London or New York) may explain the lack of interest of these foreign banks in entering the domestic market and setting up local subsidiaries (Tschoegl, 2001). Yet, strong local bank relationships may prompt domestic banks to follow their important customers overseas (Kindleberger, 1983), though empirical evidence on 'banks following their customers' is somewhat mixed.

Boldt-Christmas, Jacobsen and Tschoegl (2001), for example, find that Norwegian banks went abroad not to lose their main corporate clients to foreign competition. But domestic regulation limited their international expansion in scope and place, and may also have fostered their cooperation in bank alliances abroad (Jacobsen and Tschoegl, 1999). Seth, Nolle and Mohanty (1998), on the other hand, find that during the 80s Japanese, Canadian, Dutch, and British banks in the US allocated a majority of their loans to non-home country borrowers. Hence, they conclude that the 'follow the customer' hypothesis may have a limited applicability. In addition, Berger, Dai, Ongena and Smith (2001) find that the foreign affiliates of multinational corporations (they study 2118 affiliates operating in 20 European nations) choose host nation banks much more often than home nation banks.

While bank relationships hamper *de novo* entry, part of the franchise value may still flow to the borrowing firms, through for example increased credit availability (Petersen and Rajan, 1995). The reason for this sharing is that the informational sunk costs the banks have incurred, may provide the borrowing firms with some strategic leverage (Scheffman and Spiller, 1992). It is also interesting to note that while bank relationships may make mergers a preferable form of market entry, a substantial literature discusses how mergers may negatively affect the provision of relationship type lending to small businesses.¹³

To conclude, studying bank behaviour and market structure requires taking a closer look at existing bank-firm relationships. Table 1 summarizes the importance of various characteristics of the domestic banking industry, the informational environment, and alternative sources of credit (further discussed in the next sections) for the intensity of the domestic bank-firm relationships and the development of cross-border bank activity. Depending on the strength of existing relationships and the average quality of firms seeking a new bank, foreign banks may prefer to service clients from abroad, may decide to enter *de novo*, or may engage in a cross-border merger with or acquisition of a domestic bank (M&A). While a foreign bank may enter a market characterized by weak and multiple relationships directly, predominance of strong and bilateral relationships may leave only M&A as a viable option.

3.3. Substitutes and Complements to Domestic Bank Relationships

While credit relationships may deter entry, established banks may have an incentive for spontaneous information sharing via *credit bureaus* or to lobby for regulatory imposed *public credit registers* (Padilla and Pagano, 1997; Jappelli and Pagano, 1999). In this way, the inside banks can actually increase the borrowers' effort level, trading off gains in their current profits with the lower more competitive interest rates in the future. Banks can decide on the degree of information sharing (involving the use of common filters). For example, we observe both black credit registers (that gather information concerning behaviour of bad borrowers) and white credit registers (through which banks share information about the total indebtedness of firms) (Pagano and Jappelli' 1993; Van Cayseele, Bouckaert and Degryse, 1994). When asymmetric information is low, full voluntary information sharing may occur and foster competition. However, when asymmetric information is moderate, banks may actually hinder entry by strategically displaying only part of their inside information (Bouckaert and Degryse, 2001).

In addition to information sharing among banks, the availability of substitutes to domestic bank relationships will also influence the pricing and other conditions of

Table 1. Expected cross-border activities of foreign banks in a domestic market

	A foreign bank will		
	service its clients from abroad	enter by direct investment	enter by merger or acquisition
	↑		
	if bank-firm relationships are		
	weak	moderate	strong
	ft	t	lf
<i>Prevailing Characteristics of the Domestic</i>			
<i>Banking Industry</i>			
Branching Networks"	Limited	Limited	Omnipresent
Allowed Banking Scope ^b	Limited	Limited	Wide
<i>Informational Environment</i>			
Screening Technology ⁰	Basic	Basic	Advanced
Coordination of Screening ^d	Coordinated	Coordinated	Independent
Number of Bank Relationships'	Multiple	Multiple	Single
Information Collection ^f	Moderate	Moderate	Intensive
Credit Registers ^g	No	Yes, if Access	Yes
Following Home Clients ^h	Few, Small	Many, Large	
<i>Alternative Sources of Credit</i>			
Trade Credit ⁱ	—	Developed	
Public Debt Markets ^j	Developed	Developed	Underdeveloped

Notes:

" Omnipresent retail networks may not only act as a barrier to entry but may also strengthen bank-firm relationships, deterring *de novo* entry or cross-border service provision.

^b A wide scope of permissible banking activities may provide incumbent banks with alternative information and influence channels and result in more intense bank-firm relationships, deterring *de novo* entry or cross-border service provision.

^c More advanced information processing may increase the precision of screening and worsen the quality of pool of firms available to *de novo* entrants or cross-border service providers. It may also improve management of relationships with larger and more complex firms, deterring *de novo* entry or cross-border service provision.

^d Independent screening worsens the quality of the pool of firms available to *de novo* entrants and cross-border service providers.

^e Bilateral relationships are often more intense than multiple relationships (for example, because of free-rider problems), deterring *de novo* entry or cross-border service provision.

^f The sunk cost of the "informational capital" collected by the incumbent banks may act as a barrier to *de novo* entry and foreign service provision.

^g Foreign banks servicing firms from abroad cannot access the information in the credit register and may suffer adverse selection problems. Direct investment in the domestic market may provide immediate or delayed access to the credit register. A merger or an acquisition provides access and an informational level playing field versus the domestic competing banks.

^h Many, large corporate customers operating abroad may warrant setting up a foreign bank subsidiary, in order not to lose these relationship clients to other banks competing in the domestic market. A few, smaller customers can be serviced from the home location.

ⁱ If bank credit complements trade credit, in the sense that a firm will be granted trade credit before bank credit, a developed system of trade credit will facilitate *de novo* entry.

^j If public and bank credit are substitutes for high-quality firms, developed public debt markets allow *de novo* entrants or cross-border service providers to identify high-quality customers more easily and provide transactional banking services.

domestic bank loans embedded in relationships. Cross-border bank relationships, trade credit, and public debt constitute possible substitutes. Firms may go abroad and seek to establish a *cross-border bank relationship*. However large informational asymmetries between foreign banks and domestic firms may undermine such an attempt, making cross-border bank relationships an inferior substitute for domestic bank relationships. Buch (2001), for example, reports that physical distance (mainly reflecting information costs) continues to hamper cross-border bank lending in Europe, while Bandon (2001) finds that cultural differences in Europe may limit foreign bank entry.

Sellers of primary or intermediary products also establish 'relationships' with buying firms. Sellers grant credit, they can observe past payment behaviour, and they often have an intimate knowledge about the firm's production processes and industry. Therefore a *trade credit relationship* could substitute for a bank relationship. However, this does not seem to be the case. Trade credit is usually more expensive than bank credit. In addition, bank credit may actually be a complement to trade credit, in the sense that a firm often has to be granted trade credit first before bank credit can be obtained (Biais and Gollier, 1997). In effect, the bank is then tapping indirectly into the inside information the supplier has collected during its relationship with the firm.

Firms with an established reputation of profitability and timely debt repayment may also seek direct financing on the *public debt market*. A solid relationship with a high-quality bank may enable the firm to build a good reputation (Diamond, 1991). However, to limit the financial mobility of the firm, the relationship bank may actually seek to stunt the firm's development. Weinstein and Yafeh (1998), for example, find that Japanese firms depending on a bilateral bank relationship are less profitable and grow slower than other firms do. On the other hand, Degryse and Ongena (2001) report a robust negative correspondence between the number of bank relationships and profitability for a 15-year sample of most publicly listed Norwegian firms.¹⁴ However, Norwegian firms place four times the amount of new equity (relative to the existing stock) Japanese firms issue (Ongena, Smith and Michalsen, 2003). Hence, banks seem less successful in their efforts to stunt the profitability of their client firms in Norway, where public markets are more easily accessible.

3.4. Market Exit

On the one hand, if bank relationships create franchise value for the bank, banks may be safer and less likely to exit or to default (Keeley, 1990). On the other hand, if bank exit or default occurs, it may be more disruptive for the borrowing firms. Local small or young firms or firms with asset-specific investments would suffer most. It will be expensive for another bank to lend to one of the failed bank's customers, because the bank has to invest all over again in the collection of information (Stiglitz, 1992). And if the information-processing capacity of the banking system is limited, bank failures and the sudden increase in the number of firms seeking credit may cause congestion problems, potentially leading to market failure (Gale, 1993).

Besides bank liquidation, regulatory formal actions,¹⁵ dispositions of failed or failing banks, and voluntary bank mergers will also cause temporary disruptions in banking services, which may decrease the value of the bank relationship for the borrowing firm.¹⁶ And, as indicated earlier, even after a bank merger is consummated, small firm lending by the new and larger bank may be reduced.

4. Bank Relationships and Macro-Economic Activity

4.1. Bank Lending Channel

Changes in monetary policy may affect real activity through a so-called 'bank lending channel'.¹⁷ This channel of monetary policy exists if a firm's bank debt and other types of financing are imperfect substitutes. The strength and importance of the bank relationship may determine the degree of substitutability. For example, contractionary monetary policy may drive banks to curtail lending to all firms. Especially small banks may experience problems attracting the additional deposits necessary to offset the monetary policy shock (Kashyap and Stein, 2000).

While larger firms may have the possibility to shift to the public debt markets to satisfy their ongoing credit needs (for example, Kashyap, Stein and Wilcox, 1993), especially small firms may face difficulties in finding substitutes for the dried-up bank credit (Gertler and Gilchrist, 1994). These firms will be forced to cut back on operations and planned investments, unless their main bank relationship provides them with implicit insurance for exactly this type of scenario. It seems, therefore, possible that, for example, the impact of a single European monetary policy differs across regions depending on the strength of ongoing relationships between banks and firms.

4.2. Banking Crises

Banking crises may destroy the stock and flow of relationship benefits accruing to many firms, and hence may affect macro-economic activity.¹⁸ Bank failures and panics during the Great Depression years evidently exacerbated the contraction of real activity in the US and other countries (Bernanke, 1983; Bernanke and James, 1991). And bank failures during the US National Banking period from 1865 to 1914 may have reduced substantially, though possibly short-lived, aggregate output (Grossman, 1993).

Studies of more recent banking crises attempt to isolate more clearly the role and value of banking relationships. For example, Kang and Stulz (2000) document that Japanese firms maintaining close bank relationships with distressed domestic banks performed poorly in the early '90s. And, in a seminal study, Slovin, Sushka and Polonchek (1993) document that client borrowing firms of Continental Illinois in 1984 faced an average abnormal return of -4.2% on their stocks 1984 around the impending bank insolvency date. Bae, Kang and Lim (2002), Chiou (1999), Djankov, Jindra and Klapper (2000), and Yamori and Murakami (1999) confirm this result for Korean, Japanese, and East-Asian bank defaults during the 1990s.

However identifying bank distress announcements that are independent of the firms' expected profitability remains treacherous. In addition, it is not clear from these studies which firms were affected most and whether all firms will be similarly affected. Ongena, Smith and Michalsen (2001), for example, study the near-collapse of the Norwegian banking system during the period 1988-91. They find that although banks experienced large and permanent downward revisions in their equity value during the event period, firms maintaining relationships with these banks faced only small and temporary changes, on average, in stock price. They hypothesize that because banks in Norway are precluded from maintaining significant ownership control over loan customers, Norwegian firms were freer to choose financing from sources other than their distressed banks.

5. Conclusion

Banks and bank relationships may arise to mend pervasive asymmetric information problems in credit markets. Close bank relationships generate both benefits and costs for firms. Benefits are related to improvements in monitoring and relationship specific investments. Costs concern the potential holdup problems arising over the course of the relationship.

The emergence and existence of bank-firm relationships complicate any assessment of the degree of contestability of domestic credit markets. Competition, exit and entry, and the availability of substitutes are fundamentally affected by these long-term bank relationships. *De novo* bank entry may be almost impossible if strong bilateral relationships exist between incumbent banks and firms.

Established bank-firm relationships clearly are important in the current development of the financial system across the world. The Second European Banking Directive and 1994 US Riegle-Neal Act may well increase the scope of both firms and banks in developing these relationships. However, our review stresses that market imperfections may hamper the development of *new* bank-firm relationships and *de novo* entry of banks. Hence, bank mergers and acquisitions may become the preferred way of market entry in markets characterized by bilateral bank-firm relationships and reduced small business lending in such markets may arise as an increasingly important concern for European and American policy makers alike.¹⁹

Notes

1. For reviews of contemporary banking theory, see Bernanke (1993), Bhattacharya and Thakor (1993), Freixas and Rochet (1997), Gertler (1988), and Van Damme (1996), among others.
2. This paper will shorthand 'financial intermediary' by using the word 'bank', and hence will ignore the definitional and regulatory differences between the two groups.
3. The recognition that firm-bank relationships are important predates the information-based literature. See for example Roosa (1951), Hodgman (1961), Kane and Malkiel (1965), Wood (1975) and Blackwell and Santomero (1982).
4. See Berger and Udell (1998), Boot (2000), and Ongena and Smith (2000a) for formal reviews of the bank-firm relationship literature. Berlin (1996), Bornheim and Herbeck (1998), and Rivaud-Danset (1996) provide interesting introductions to this literature. Neuberger (1998) reviews the literature on the industrial organization of banking, while Scholtens (1992) reviews the theory of international financial intermediation.
5. See for example, Agarwal and Elston (2001), Berger and Udell (1995), Blackwell and Winters (1997), Cole (1998), D' Auria, Foglia and Reedtz (1999), Harhoff and Korting (1998), Elsas and Krahnen (1998), and Lehmann and Neuberger (2001).
6. Berlin and Mester (1998) and Elsas and Krahnen (1998) provide empirical evidence along these lines.
7. Without reputation such external funding may be more expensive (Myers and Majluf (1984)).
8. For example, Khanna (2000).
9. For example, Arshadi and Lawrence (1991).
10. For example, Altman (1985).
11. In Alien (1993) stock market participants 'agree to disagree'.
12. For example, Demsetz, Saidenberg and Strahan (1996).
13. For example, Berger, Saunders, Scalise and Udell (1998). For reviews see Berger and Udell (1998) and Samolyk (1997).
14. See also, for example, Foglia, Laviola and Marullo Reedtz (1998) and Fok, Chang and Lee (2001).
15. For example, Peek and Rosengren (1995).
16. For example, Karceski, Ongena and Smith (2000).
17. Kashyap and Stein (1994) review this part of the literature.
18. Ongena (1999) reviews the literature linking bank default and real activity.

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